

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims

1 – 58. (Cancelled)

59. (New) A method of supporting Hierarchical Mobile IP version 6 (HMIPv6) service for a mobile node using an AAA infrastructure to bootstrap the HMIPv6 service, said method comprising the steps of:

said AAA infrastructure assigning an appropriate Mobility Anchor Point (MAP) to the mobile node for the HMIPv6 service; and,

transferring HMIPv6-related information required for authenticating and authorizing the mobile node for the HMIPv6 service with the assigned MAP over said AAA infrastructure.

60. (New) The method of claim 59, wherein an AAA server of said AAA infrastructure assigns an appropriate MAP to the mobile node for the HMIPv6 service.

61. (New) The method of claim 60, wherein the mobile node is roaming in a visited network, further comprising the step of an AAA visited network server (AAA_v) assigning a MAP in the visited network to the mobile node based on a policy of the visited network operator.

62. (New) The method of claim 59, further comprising an AAA infrastructure component of the home network generating credential-related data for security association between the mobile node and the assigned MAP and sending said credential-related data to the MAP, the AAA infrastructure home network component generating information for finalizing the security association or the MAP responding with information for finalizing the security association to the AAA infrastructure home network

component, which sends HMIPv6 authorization information to the mobile node over the AAA infrastructure.

63. (New) The method of claim 59, further comprising transferring HMIPv6-related information over said AAA infrastructure for establishing a HMIPv6 security association between the mobile node and the assigned MAP and for establishing a HMIPv6 binding for the mobile node, and wherein HMIPv6-related information for HMIPv6 binding is transferred in the same round trip as HMIPv6-related information for HMIPv6 security association.

64. (New) The method of claim 59, wherein the mobile node is roaming in a visited network, and HMIPv6-related authentication and authorization information is transferred between the mobile node and an AAA home network server (AAAh) within an authentication protocol in an end-to-end procedure transparent to the visited network.

65. (New) The method of claim 64, wherein said authentication protocol is an extended Extensible Authentication Protocol (EAP), and said HMIPv6-related information is incorporated as additional data in the EAP protocol stack.

66. (New) The method of claim 65, wherein said HMIPv6-related information is transferred in a generic container in the EAP protocol stack.

67. (New) The method of claim 64, wherein the assigned MAP is located in the visited network, and HMIPv6-related information is transferred between the mobile node and the AAA home network server (AAAh) within said authentication protocol, and HMIPv6-related information is transferred between the AAAh and the assigned MAP in the visited network within an AAA framework protocol application.

68. (New) A system for supporting Hierarchical Mobile IP version 6 (HMIPv6) service for a mobile node, comprising:

an AAA infrastructure component operable for assigning an appropriate Mobility Anchor Point (MAP) to the mobile node for the HMIPv6 service; and,

means for transferring HMIPv6-related information required for authenticating and authorizing the mobile node for the HMIPv6 service with the assigned MAP over said AAA infrastructure.

69. (New) The system of claim 68, wherein said AAA infrastructure component is an AAA server that is operable for assigning an appropriate MAP to the mobile node for the HMIPv6 service.

70. (New) The system of claim 69, wherein the mobile node is roaming in a visited network, and an AAA visited network server (AAAv) is operable for assigning a MAP in the visited network to the mobile node based on a policy of the visited network operator.

71. (New) The system of claim 68, wherein an AAA infrastructure component of the home network comprises:

means for generating credential-related data for security association between the mobile node and the assigned MAP;

means for sending said credential-related data to the assigned MAP;

means for receiving information from the MAP for finalizing the security association; and,

means for sending HMIPv6 authorization information to the mobile node over the AAA infrastructure.

72. (New) The system of claim 68, further comprising means for transferring HMIPv6-related information over said AAA infrastructure for establishing a HMIPv6 security association between the mobile node and the assigned MAP and for establishing a HMIPv6 binding for the mobile node, and wherein HMIPv6-related

information for HMIPv6 binding is transferred in the same round trip as HMIPv6-related information for HMIPv6 security association.

73. (New) The system of claim 68, wherein the mobile node is roaming in a visited network, and HMIPv6-related authentication and authorization information is transferred between the mobile node and an AAA home network server (AAA_H) within an authentication protocol in an end-to-end procedure transparent to the visited network.

74. (New) The system of claim 73, wherein said authentication protocol is an extended Extensible Authentication Protocol (EAP), and said HMIPv6-related information is incorporated as additional data in the EAP protocol stack.

75. (New) The system of claim 74, wherein said HMIPv6-related information is transferred in a generic container in the EAP protocol stack.

76. (New) The system of claim 73, wherein the assigned MAP is located in the visited network, and HMIPv6-related information is transferred between the mobile node and an AAA home network server (AAA_H) within said authentication protocol, and HMIPv6-related information is transferred between the AAA_H and the assigned MAP in the visited network within an AAA framework protocol application.

77. (New) An AAA server for supporting Hierarchical Mobile IP version 6 (HMIPv6) service for a mobile node, comprising means for assigning a Mobility Anchor Point (MAP) to the mobile node for the HMIPv6 service.

78. (New) The AAA server of claim 77, wherein the mobile node is roaming in a visited network, and said AAA server is an AAA visited network server (AAA_V) operable for assigning a MAP in the visited network.

79. (New) The AAA server of claim 77, wherein said AAA server is an AAA home network server (AAA_H) operable for assigning a MAP in the home network of the mobile node.

80. (New) An AAA home network server (AAA_H) for supporting Hierarchical Mobile IP version 6 (HMIPv6) service for a mobile node, comprising:

means for generating credential-related data for security association between the mobile node and a Mobility Anchor Point (MAP) assigned by an AAA infrastructure component;

means for sending said credential-related data to the assigned MAP;

means for receiving information from the MAP for finalizing the security association; and,

means for sending HMIPv6 authorization information including security association information to the mobile node.

81. (New) The AAA home network server of claim 80, wherein said mobile node is roaming in a visited network, and said means for sending HMIPv6 authorization information is operable for sending the information over an AAA infrastructure linking the visited network with the home network of the mobile node.

82. (New) The AAA home network server of claim 80, wherein said AAA home network server is configured for receiving, from the assigned MAP, information for finalizing the security association as well as binding address information, and said means for sending HMIPv6 authorization information over the AAA infrastructure is configured for sending HMIPv6 authorization information including MAP assignment information, binding address information and security association information to the mobile node.

83. (New) A system for supporting Hierarchical Mobile IP version 6 (HMIPv6) service for a mobile node, further comprising means for transferring HMIPv6-related authentication and authorization information in an Extensible Authentication

Protocol (EAP) between the mobile node and an AAA home network server over an AAA infrastructure for authenticating and authorizing the mobile node for HMIPv6 service, said HMIPv6-related information being incorporated as additional data in the EAP protocol stack.

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